CLAIMS

1. A data-processing device (1) comprising storage means (6) for storing at least one downloaded application (AP) that is initially compiled in an
5   intermediate language, and that is made up of a plurality of application components (CP1), each of which contains an identifier (ID1) and instruction words (OC1), and intermediate-language virtual execution means (VM, 4, 5), said device being
10   characterized in that it further comprises:

- random number generator means (30) for associating a random number (NA1) with a predetermined application component (CP1) of the downloaded application (AP);

15   - first transformer means (42) included in the virtual execution means for applying each of the instruction words (OC1) in the predetermined application component (CP1) and the associated random number (NA1) to a transformation function (FT) in order
20   to store transformed instruction words (OCT1) during downloading of the predetermined application component; and

- second transformer means (43) included in the virtual execution means in order to apply each of
25   the transformed instruction words (OCT1) of a portion of the predetermined application component (CP1) and the associated random number (NA1) to the reciprocal function (FT^{-1}) of the transformation function (FT) in order to retrieve the instruction words (OC1) making up
30   said predetermined application component in order to execute said component portion retrieved in this way.

2. A device according to claim 1, in which the instruction words (OC1) are operation code bytes (IN) and parameter bytes (PA).

5   3. A device according to claim 1, in which each instruction word has a constant length and corresponds to a complete instruction.

4. A device according to any one of claims 1 to 3,
10   further comprising second storage means (5) for storing the downloaded application (AP) but including the predetermined application component with transformed instruction words (OCT1).

15   5. A device according to any one of claims 1 to 4, in which the generator means (30) generate a random number (NAD) produced by the virtual execution means (VM), and the first transformer means (42) apply each item of data (REF) and the associated random number
20   (NAD) to the transformation function (FT) in order to write an item of transformed data (REFT) in the storage means (6) when the data is produced by the virtual execution means (VM).

25   6. A device according to any one of claims 1 to 5, in which the generator means (30) generate random numbers associated with respective primitive data types, and the first transformer means (42) apply each item of data produced by the virtual execution means
30   (VM) and the random number associated with the primitive type of the data to the transformation function (FT) in order to write the other item of transformed data into the storage means (6) when the data is produced by the virtual execution means (VM).

7. A device according to any one of claims 1 to 6, in which the generator (30) associates respective random numbers (NA1) to identifiers (ID1) of different types of component (CP1) so that the instruction words in each component are applied to the transformation function (FT) with the random number that is associated with the component.

8. A device according to any one of claims 1 to 7, in which the transformation function (FT) and the reciprocal function (FT^{-1}) are Exclusive OR functions.

9. A device according to any one of claims 1 to 8, in which the random number generator means (30) are included in or in association with a processor (3) in the device.

10. A device according to any one of claims 1 to 8, in which the random number generator means are included in the virtual execution means (VM).

11. A device according to any one of claims 1 to 10, in which the storage means are constituted by a random access memory (6) containing data exchanged with the world outside the device (1).

12. A device according to any one of claims 1 to 11, of the portable electronic type, such as a smart card (1).